

Attachment Listing Claims Presently Under Examination
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71. A method to label cells with a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells wherein said capture moiety specifically binds the product, thereby labeling cells with said product, and wherein said product has been labeled with a label moiety.
72. A method to label cells with a product secreted by the cells, comprising the steps of:
 - a) coupling said cells to a capture moiety;
 - b) culturing said cells under conditions wherein the product is secreted and bound to said capture moiety, thereby labeling cells with a product secreted by said cells; and
 - c) labeling said product with a label moiety.
73. The method of claim 71 wherein said capture moiety is coupled to said cells through an anchoring moiety.
74. The method of claim 72 wherein said capture moiety is coupled to said cells through an anchoring moiety.
75. The method of claim 71 wherein said cells remain viable during said method.
76. The method of claim 71 wherein the label moiety is an antibody specific for the product.
77. The method of claim 71 wherein the label moiety is fluorochromated.
78. The method of claim 71 wherein the label moiety is magnetizable.

79. The method of claim 78 wherein the label moiety comprises colloidal magnetic particles with a typical diameter of about 5 to 200 nm.
80. The method of claim 71 wherein the capture moiety is an antibody or an antigen-binding fragment thereof.
81. The method of claim 80 wherein the antibody or antigen binding fragment thereof is bispecific.
82. The method of claim 73 wherein the anchoring moiety is a lipid anchor.
83. The method of claim 73 wherein the anchoring moiety is an antibody, or an antigen-binding fragment thereof.
84. The method of claim 71 wherein said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety.
85. The method of claim 81 wherein the bispecific antibody specifically binds to the cell.
86. The method of claim 71 wherein said product includes cytokines, antibodies, hormones, enzymes or proteins.
87. The method of claim 86 wherein said cytokine includes IFN γ , IL1, IL2, IL4, IL10, IL12, TGF β , TNF, GMCSF, and SCF.
88. The method of claim 84 wherein said linking moiety includes branched polymers.

89. The method of claim 88 wherein said branched polymers includes modified dextran molecules, polyethylene glycol, polypropylene glycol, polyvinyl alcohol or polyvinylpyrrolidone.

90. The method of claim 71 wherein said cell comprises a cell surface marker.

91. The method of claim 90 wherein said cell surface marker includes CD3, CD4, CD8, CD19, CD20, CD14, CD16, CD15, CD45, class I MHC and Class II MHC molecules, CD34, CD38, CD33, CD56 T cell receptor, Fc receptor, β 2 microglobulin or immunoglobulin.

92. The method of claim 90 wherein said cell surface marker comprises a cell adhesion molecule.

93. A composition comprising cells labeled by the method of claim 71.

94. A composition comprising cells labeled by the method of claim 72.

95. A composition comprising cells labeled by a product secreted by said cells, wherein said cells are coupled to a capture moiety, wherein said capture moiety specifically binds the product secreted by said cell, and wherein said product is labeled with a label moiety.

96. The composition of claim 95 wherein said capture moiety is coupled to said cells through an anchoring moiety.

97. The composition of claim 95 wherein said capture moiety is an antibody or antigen-binding fragment thereof.

98. The composition of claim 97 wherein said antibody is bispecific.

99. The composition of claim 96 wherein said anchoring moiety is a lipid anchor.

100. The composition of claim 96 wherein said anchoring moiety is an antibody or an antigen-binding fragment thereof.

101. The composition according to claim 95 wherein the label moiety is an antibody specific for the product.

102. The composition according to claim 95 wherein the label moiety is fluorochromated.

103. The composition according to claim 95 wherein the label moiety is magnetizable.

104. The composition of claim 95 wherein said product includes cytokines, antibodies, hormones, enzymes or proteins.

105. The composition of claim 104 wherein said cytokine includes IFN γ , IL1, IL2, IL4, IL10, IL12, TGF β , TNF, GMCSF, and SCF.

106. The composition of claim 95 wherein said cell comprises a cell surface marker.

107. The composition of claim 106 wherein said cell surface marker includes CD3, CD4, CD8, CD19, CD20, CD14, CD16, CD15, CD45, class I MHC and Class II MHC molecules, CD34, CD38, CD33, CD56 T cell receptor, Fc receptor, β 2 microglobulin or immunoglobulin.

108. The composition of claim 106 wherein said cell surface marker comprises a cell adhesion molecule.

109. The composition of claim 95 wherein said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety.

110. The composition of claim 109 wherein said linking moiety includes branched polymers.

111. The composition of claim 110 wherein said branched polymers includes modified dextran molecules, polyethylene glycol, polypropylene glycol, polyvinyl alcohol or polyvinylpyrrolidone.

112. The method of claim 71 wherein said cell has been genetically modified by the introduction of nucleic acid that encodes said protein.

113. The composition of claim 95 wherein said cell has been genetically modified by the introduction of nucleic acid that encodes said protein.

114. (New) The method of claim 71 further comprising the step of separating said cells labeled with said product, wherein said product is labeled with a label moiety.

115. (New) A method to separate cells based on a product secreted by the cells, comprising the steps of:

a) culturing cells coupled to a capture moiety under conditions wherein a product is secreted, wherein said product secreted by said cells is specifically bound to said capture moiety, thereby producing cells labeled with said product, wherein said product is labeled with a label moiety; and

b) separating said cells labeled with said product.

116. (New) The method of claim 114 wherein said capture moiety is coupled to said cells through an anchoring moiety.

117. (New) The method of claim 115 wherein said capture moiety is coupled to said cells through an anchoring moiety.

118. (New) The method of claim 114 wherein said cells remain viable during said method.

119. (New) The method of claim 114 wherein the label moiety is an antibody specific for the product.

120. (New) The method of claim 114 wherein the label moiety is fluorochromated.

121. (New) The method of claim 114 wherein the label moiety is magnetizable.

122. (New) The method of claim 121 wherein the label moiety comprises colloidal magnetic particles with a typical diameter of about 5 to 200 nm.

123. (New) The method of claim 114 wherein the capture moiety is an antibody or an antigen-binding fragment thereof.

124. (New) The method of claim 123 wherein the antibody or antigen binding fragment thereof is bispecific.

125. (New) The method of claim 116 wherein the anchoring moiety is a lipid anchor.

126. (New) The method of claim 116 wherein the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

127. (New) The method of claim 114 wherein said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety.

128. (New) The method of claim 124 wherein the bispecific antibody specifically binds to the cell.

129. (New) The method of claim 114 wherein said product includes cytokines, antibodies, hormones, enzymes or proteins.

130. (New) The method of claim 129 wherein said product is a cytokine.

131. (New) The method of claim 129 wherein said product is an antibody.

132. (New) The method of claim 130 wherein said cytokine includes IFN γ , IL1, IL2, IL4, IL10, IL12, TGF β , TNF, GMCSF, or SCF.

133. (New) The method of claim 132 wherein said cytokine is IFN γ .

134. (New) The method of claim 132 wherein said cytokine is IL2.

135. (New) The method of claim 132 wherein said cytokine is IL4.

136. (New) The method of claim 132 wherein said cytokine is IL10.

137. (New) The method of claim 132 wherein said cytokine is IL12.

138. (New) The method of claim 132 wherein said cytokine is TNF.

139. (New) The method of claim 127 wherein said linking moiety includes branched polymers.

140. (New) The method of claim 139 wherein said branched polymers includes modified dextran molecules, polyethylene glycol, polypropylene glycol, polyvinyl alcohol or polyvinylpyrrolidone.

141. (New) The method of claim 114 wherein said cell comprises a cell surface marker.

142. (New) The method of claim 141 wherein said cell surface marker includes CD3, CD4, CD8, CD19, CD20, CD14, CD16, CD15, CD45, class I MHC and Class II MHC molecules, CD34, CD38, CD33, CD56 T cell receptor, Fc receptor, β 2 microglobulin or immunoglobulin.

143. (New) The method of claim 141 wherein said surface marker is CD45.

144. (New) The method of claim 141 wherein said cell surface marker comprises a cell adhesion molecule.

145. (New) The method of claim 114 wherein said cell has been genetically modified by the introduction of nucleic acid that encodes said protein.

146. (New) The method of claim 115 wherein said cell has been genetically modified by the introduction of nucleic acid that encodes said protein.

147. (New) A composition comprising cells separated by the method of claim 114.

148. (New) A composition comprising cells separated by the method of claim 115.

149. (New) A composition comprising cells separated based on a product secreted by the cells, wherein said cells are coupled to a capture moiety and said product secreted by said cells is specifically bound to said capture moiety and wherein said product is labeled with a label moiety.

150. (New) A kit for the detection of cells that secrete a product, comprising:

a) at least one of an anchoring moiety and a capture moiety;

- b) a label for detecting captured product; and
- c) instructions for use of the reagents, all packaged in appropriate containers.

151. (New) The kit of claim 150 further comprising medium for cell incubation.

152. (New) The kit of claim 150 wherein said capture moiety is a bispecific antibody.

153. (New) The kit of claim 152 wherein said bispecific antibody is specific for a cytokine.

154. (New) The kit of claim 153 wherein said cytokine is IFN γ .

155. (New) The kit of claim 153 wherein said cytokine is IL2.

156. (New) The kit of claim 153 wherein said cytokine is IL4.

157. (New) The kit of claim 153 wherein said cytokine is IL10.

158. (New) The kit of claim 153 wherein said cytokine is IL12.

159. (New) The kit of claim 153 wherein said cytokine is TNF.

160. (New) The kit of claim 153 wherein said bispecific antibody binds a cell surface marker.

161. (New) The kit of claim 153 wherein said cell surface marker is CD45.